MR. K. GEORGE (*Chief Secretary to Government*): It depends upon the circumstances of each case.

Bridge across the Shertallai canal at Kommadi.

117. **MR. P. S. MAHOMED** (*Nominated*): Will the Government be pleased to state:

(*a*) the number of years that have elapsed since the Shertallai canal was opened to its present length;

(*b*) the number of years that have elapsed since the ferry service at Kommadi was sanctioned;

(*c*) whether the people have submitted several petitions and resolutions to the Government for constructing a bridge at Kommadi; and

(*d*) whether they have made any attempt to relieve the people of the suffering they are undergoing for want of a bridge at Kommadi?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): (*a*) Four years.

(*b*) A ferry service at Kommadi has not been sanctioned.

(*c*) A resolution was received by the Government and an interpellation in December 1930.

(*d*) An estimate has been prepared by the Executive Engineer, Kottayam, which is being examined by the Chief Engineer.

Roads in the Trivandrum town.

118. **MR. A. THANU PILLAI** (*Trivandrum*): Will the Government be pleased to state:

(*a*) whether they are aware of the highly damaged condition of some of the roads of the Trivandrum town; and

(*b*) whether there is a list in the Executive Engineer's Office of roads in the town that require special attention in the rainy season?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): (*a*) Some of the gravelled roads in the town get damaged during rains.

(*b*) The Executive Engineer has prepared a list of roads which require metalling.

Purchase of an Air Compressor machine for the Water Works Division.

119. **MR. A. THANU PILLAI** (*Trivandrum*): Will the Government be pleased to state:

(*a*) whether a machine called "Air Compressor for grouting" has been purchased for the Water Works;

(*b*) whether it is used for grouting and excavating hard rock;

(*c*) the outturn of work done by it in one day;

(*d*) the cost of working the machine for one day including the pay of the staff connected with it;

(*e*) what would be the cost of an equal quantity of work if done by manual labour without machinery;

(*f*) when the machine was purchased;

(*g*) how long it was used;

(*h*) whether it is being used now (28-11-1106); and

(*i*) the members of the staff connected with it and the pay of each of them?

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MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : (*a*) A machine has been purchased. It is not called 'Air Compressor for grouting'. It is a plant consisting of an air compressor, a jack-hammer with its appurtenances for rock boring, and a grout mixer and placer with its hose and other connections.

(*b*) It is used for boring through hard rock and for grouting under pressure the seams and fissures and cavities in the rock with cement grout.

(*c*) The outturn of the plant is six running feet per hour, the diameter of the hole bored being 2⅛ inches at the top. The number of working hours per day is variable according to the necessity and weather conditions. No definite outturn can be stated for the plant under the head 'grouting' as the number of bore holes it can grout in a day depends on the extent of fissures and cavities in the rock which has to be sealed up.

(*d*) S. Rs. 29-19 chs. on the average, exclusive of interest and depreciation on capital cost. Including the latter, it will come to Rs. 35.

(*e*) The boring and grouting work cannot be borne by manual labour for the speed at which boring has to be done for grouting and hence, there is no comparison.

(*f*) On the 24th Mithunam 1105.

(*g*) For about 6 months, from 6-4-1106 to 1-9-1106.

(*h*) It is not being used at present, but it will be required when the right third of the Dam is taken up.

(*i*) (1) The staff when the machine is at work:—

Mechanical operator—Rs. 50 per mensem.
Air Compressor Driver -Rs. 50/- per mensem.
Grout Mixer operator—Rs. 30/- per mensem.
Watcher—chs. 14 per day.

(2) staff when the machine is idle : —

The watcher will be on duty and the services of the rest of the staff are utilised for other works.

MR. A. THANU PILLAI (*Trivandrum*) : With reference to the answer to part (*b*) of the question, may I know where the plant is used for boring through hard rock ?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : It is used in the headworks.

MR. A. THANU PILLAI (*Trivandrum*) : It is stated in the answer that the plant is used for boring through hard rock. Why is hard rock bored through ?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : For making the foundation sufficiently strong. There may be loose portions and cavities.

MR. A. THANU PILLAI (*Trivandrum*) : Am I to understand that the foundation itself is hard rock ?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : In the hard rock there will be fissures and weak portions.

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MR. A. THANU PILLAI (*Trivandrum*) : It is stated that it is done for strengthening the foundation. Am I to understand that the foundation is constructed upon already existing hard rock?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : The purpose for which the plant is used is full well explained in the answer.

MR. A. THANU PILLAI (*Trivandrum*) : That is true. But I would like to get some more information. I wish to know whether it is hard rock that is bored through and whether it is upon hard rock that the foundation is constructed?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : Yes, that is what I find from the information supplied by the Chief Engineer.

MR. A. THANU PILLAI (*Trivandrum*) : May I know whether the boring is done before the foundation is constructed or after?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : Before. It is clear from the answers.

MR. A. THANU PILLAI (*Trivandrum*) : It is not given in the answers.

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : Yes.

MR. A. THANU PILLAI (*Trivandrum*) : Where is it given?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : It can be inferred from the answers given.

MR. A. THANU PILLAI (*Trivandrum*) : Is it so, as a fact?

MR. C. O. MADHAVAN ((*Ag. Secretary to Government*) : It is.

MR. A. THANU PILLAI (*Trivandrum*) : Or is it that the boring is done after the foundation is begun to be constructed?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : It is done before the foundation is laid.

MR. A. THANU PILLAI (*Trivandrum*) : So that when the foundation is laid, the use for the machinery is over?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : When the foundation is wholly laid, its purpose will be served.

MR. A. THANU PILLAI (*Trivandrum*) : I wish to know whether grouting and the construction of the foundation goes hand in hand or whether grouting precedes the construction of the foundation or follows it?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : The whole work will be done before the foundation is laid.

MR. A. THANU PILLAI (*Trivandrum*) : So that before the foundation work is begun, grouting is over?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*) : Yes, so far as that portion is concerned.

MR. A. THANU PILLAI (*Trivandrum*) : And thereafter there will be no use of that machinery?

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MR. C. O. MADHAVAN (*Ag. Secretary to Government*): It has to be used for other portions.

MR. A. THANU PILLAI (*Trivandrum*): I understand that it could be used for other portions. But I wish to know whether the use of the machinery is not over so far as that portion of the work is concerned?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): So far as that portion of the work is concerned, the use of the machine is over.

MR. A. THANU PILLAI (*Trivandrum*): Is the whole foundation upon solid rock?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): I suppose it is so. Specific information is not available just now.

MR. A. THANU PILLAI (*Trivandrum*): May I have an idea as to how this boring through hard rock on which the foundation is buil is done? Is not the hard rock covered by earth on either side, or by other portions of the rock?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): No, the rock is not covered by earth on either side. So far as that portion of the rock is concerned, it is exposed. If there is anything above the rock, that is removed and only then is the foundation laid.

MR. A. THANU PILLAI (*Trivandrum*): I want an answer only if the member is in a position to do so?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): Yes, I have seen the place myself.

MR. J. S. WESTERDALE (*Chief Engineer*): May I draw the attention of the President to the fact that these questions are purely technical?

MR. A. THANU PILLAI (*Trivandrum*): I would be very glad to get an answer from the Chief Engineer if he can enlighten me on the subject.

PRESIDENT: What information exactly is it that you want?

MR. A. THANU PILLAI (*Trivandrum*): I want to know how this grouting is done. Is it on the surface of the rock on which the foundation is to be laid or on either side of the rock?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): It is on the river bed that the dam is constructed. So there is no earth above it.

MR. A. THANU PILLAI (*Trivandrum*): That is not what I wish to know. I wish to know whether the boring is done on that portion of the rock where the foundation is to be laid or on either side of the rock?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): It is on the bed of the river where the foundation is laid.

PRESIDENT: It is as you said. The surface of the rock on which the foundation is to be built has to be made water tight in the first instance. They dig down to the rock upon which the foundation is to be built. They then trench the rock *i. e.*, a portion of it is blown up with gun powder so that you can get, say a 4 ft. trench. When it is

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[President]

done there may be certain fissures on the exposed surface: and if these fissures are left there, it is likely that the water would escape. These fissures have therefore to be closed so as to get a solid foundation upon which you can build the base of the dam.

MR. A. THANU PILLAI (*Trivandrum*): Now I wish to know whether there is anything to show where the fissures are unless it be they are exposed on the surface?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*). When the surface is exposed and the trench for the foundation is made, fissures if there be any, will become visible.

MR. A. THANU PILLAI (*Trivandrum*): May I know from the member whether there is any guarantee that there will be fissures beneath the surface?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): That is a technical question.

MR. A. THANU PILLAI (*Trivandrum*): I want an answer to the question only if the member is in a position to answer it?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): I am not in a position to answer that question.

MR. A. THANU PILLAI (*Trivandrum*): May I know how many fissures were seen?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): There must have been several. They were not perhaps umbered or counted.

PRESIDENT: Mr. Madhavan you may say that you have not got the number with you and that is what you mean.

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): I have not got the number here.

MR. A. THANU PILLAI (*Trivandrum*): So it is not possible for the member to say in how many places this boring has been done?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): I have not got the information with me just now.

MR. A. THANU PILLAI (*Trivandrum*): What is the total length of this foundation?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): That information also is not available.

MR. A. THANU PILLAI (*Trivandrum*): Was there any occasion in which this plant was used?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): The answer to the original question would show that it was used for six months.

MR. A. THANU PILLAI (*Trivandrum*): I understand *that* from the answer. But I want to know in how many places boring was done or the area of the surface in respect of which it was used?

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MR. C. O. MADHAVAN (*Ag. Secretary to Government*): The exact measurement is not with me. I don't know if it has been taken.

MR. A. THANU PILLAI (*Trivandrum*): May I know the price of the machinery if the information is available?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): The capital cost of the machine is Rs. 12,606-25-8.

MR. A. THANU PILLAI (*Trivandrum*): Is it after obtaining expert opinion that fissures that appear on the surface are grouted for strengthening the foundation?

PRESIDENT: That is not a supplementary question. If you want information on that point you will have to ask a fresh question.

Cross-roads in Shertallai taluk.

120. **MR. K. P. MADHAVAN PILLAI** (*Shertallai*): Will the Government be pleased to state why the cross-roads in Shertallai already sanctioned, and the construction of which was begun, have been discontinued throughout the whole of this year (1106)?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): The only cross road begun is the Kalavur-Mannanchery road which has been practically completed except for a small bit in the centre for which land has not been handed over.

MR. K. P. MADHAVAN PILLAI (*Shertallai*): Is the member aware that the Kalavur-Mannancherry road is not in the Shertallai taluk?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): Of course, the question did not confine itself to roads in Shertallai.

The question is:

> "Will the Government be pleased to state why the cross-roads in Shertallai already sanctioned, and the construction of which was begun, have been discontinued throughout the whole of this year?"

The information was probably supplied on the basis of the cross-roads with regard to the Alleppey-Shartallai road.

MR. K. P. MADHAVAN PILLAI (*Shertallai*): Is the member aware of any of the cross-roads in Shertallai whose construction has been begun?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): So far as I know this is the only cross-road that has been taken up. Another road has been sanctioned, but it has not yet been taken up.

Contribution in lieu of duty on petrol.

121. **MR. S. CHATTANATHA KARAYALAR** (*Pattanapuram cum Shencotta*): Are the Government aware that the Government of Mysore receive a contribution from the Government of India in lieu of the duty on petrol consumed within the Mysore State?

MR. C. O. MADHAVAN (*Ag. Secretary to Government*): The Government have no authentic information on the point.

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